

CLAIMS

1. A method of determining a size of an object, the method comprising acts of:
 - a) capturing a digital image of a field of view that includes the object;
 - 5 b) determining the size of the field of view captured in the digital image;and
 - c) determining the size of the object based on the size of the field of view capture in the digital image.
- 10 2. The method of claim 1, wherein the act a) further comprises an act of:
capturing the digital image using a system that includes a scope to receive the image, a camera coupled to the scope to capture the image received by the scope, and a measurement displacement system coupled to the scope to determine a distance of the scope from the object.
- 15 3. The method of claim 2, wherein the act b) further comprises acts of:
using the measurement displacement system to determine a distance of the scope from the object when the image was captured; and
determining a size of the field of view of the digital image based on a
20 calibration curve that maps distance between the scope and the object to field of view size.
- 25 4. The method of claim 3, wherein the act c) further comprises acts of:
determining a number of pixels in the digital image that depict the field of view; and
determining a number of the pixels in the image that depict object.
- 30 5. The method of claim 4, further comprising an act of:
comparing the number of pixels in the image of the object to the number of pixels in the digital image to determine the size of the object.

6. The method of claim 3, wherein the scope includes a first light source with light in a first spectrum that illuminates the field of view, wherein the measurement displacement system includes a second light source with light in a second spectrum, wherein the measurement displacement system determines the distance by measuring
5 light from the second source that is reflected off the object and received at a sensor, and wherein the method further comprises an act of:

filtering the light from the first light source of the scope so that light from the first light source does not reach the sensor and interfere with the measurement by the measurement displacement system.

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7. At least one computer readable medium encoded with instructions that, when executed on a computer system, perform a method of determining a size of an object, the method comprising acts of:

- a) capturing a digital image of a field of view that includes the object;
 - 15 b) determining the size of the field of view captured in the digital image;
- and
- c) determining the size of the object based on the size of the field of view capture in the digital image.

20 8. The at least one computer readable medium of claim 7, wherein the act a) further comprises an act of:

capturing the digital image using a system that includes a scope to receive the image, a camera coupled to the scope to capture the image received by the scope, and a measurement displacement system coupled to the scope to determine a distance of the
25 scope from the object.

9. The at least one computer readable medium of claim 8, wherein the act b) further comprises acts of:

using the measurement displacement system to determine a distance of
30 the scope from the object when the image was captured; and

determining a size of the field of view of the digital image based on a calibration curve that maps distance between the scope and the object to field of view size.

- 5 10. The at least one computer readable medium of claim 9, wherein the act c) further comprises acts of:
- determining a number of pixels in the digital image that depict the field of view; and
- determining a number of the pixels in the image that depict object.

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11. The at least one computer readable medium of claim 10, wherein the method further comprises an act of:
- comparing the number of pixels in the image of the object to the number of pixels in the digital image to determine the size of the object.

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12. The at least one computer readable medium of claim 9, wherein the scope includes a first light source with light in a first spectrum that illuminates the field of view, wherein the measurement displacement system includes a second light source with light in a second spectrum, wherein the measurement displacement system determines
- 20 the distance by measuring light from the second source that is reflected off the object and received at a sensor, and wherein the method further comprises an act of:

 filtering the light from the first light source of the scope so that light from the first light source does not reach the sensor and interfere with the measurement by the measurement displacement system.

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13. A computer system comprising:
- a display;
- at least one controller coupled to the display that:
- 30 captures a digital image of a field of view that includes the object;
- determines the size of the field of view captured in the digital image; and

determines the size of the object based on the size of the field of view capture in the digital image.

14. The computer system of claim 13, wherein the at least one controller
5 captures the digital image using a system that includes a scope to receive the image, a camera coupled to the scope to capture the image received by the scope, and a measurement displacement system coupled to the scope to determine a distance of the scope from the object.

10 15. The computer system of claim 14, wherein the at least one controller:
uses the measurement displacement system to determine a distance of the scope from the object when the image was captured; and
determines a size of the field of view of the digital image based on a calibration curve that maps distance between the scope and the object to field of view
15 size.

16. The computer system of claim 15, wherein the at least one controller:
determines a number of pixels in the digital image that depict the field of view; and
20 determines a number of the pixels in the image that depict object.

17. The computer system of claim 16, wherein the at least one controller:
compares the number of pixels in the image of the object to the number of pixels in the digital image to determine the size of the object.
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18. The computer system of claim 15, wherein the scope includes a first light source with light in a first spectrum that illuminates the field of view, wherein the measurement displacement system includes a second light source with light in a second spectrum, wherein the measurement displacement system determines the distance by
30 measuring light from the second source that is reflected off the object and received at a sensor, and wherein the system further includes a filter that filters the light from the first

light source of the scope so that light from the first light source does not reach the sensor and interfere with the measurement by the measurement displacement system.